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TOWARDS A FARMER-GOVERNED APPROACH TO AGRICULTURAL RESEARCH FOR DEVELOPMENT: LESSONS FROM INTERNATIONAL EXPERIENCES WITH LOCAL INNOVATION SUPPORT FUNDS

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Abstract – Novel mechanisms for funding agricultural research for development (ARD) are emerging which strive to give smallholders a central role in deciding what types of innovation they want to explore and develop and how to do this. This paper reports on international experiences with one such mechanism, the Local Innovation Support Fund (LISF), which is being piloted in eight countries across Asia and Africa under the umbrella of the PROLINNOVA international partnership programme. The ways of setting up the LISFs vary greatly between countries, in response to country-specific conditions, experiences and opportunities, but all share certain structural elements: ensuring farmers' effective control over fund governance; making calls for proposals that farmers can easily understand and respond to; developing and applying effective screening criteria; and monitoring and evaluating systematically how the funds are used, the outcomes of the work and the impacts on farmers' lives, including their ability to influence ARD decision-making. After presenting the general rationale for the LISF pilot, the paper examines the diverse results obtained across countries in terms of structure and process of grant administration; number, size and types of grants; thematic foci; monitoring and impact assessment. Some critical issues are discussed: the importance of understanding concepts and its implications for LISF implementation, the purposes for which farmers use the funds, the pros and cons of supporting farmers' own experimentation versus farmer-led joint experimentation, and the perspectives for sustainability and scaling-up of the LISF approach within and beyond the eight countries in which it has been piloted.

Key words: Innovation, funding, governance, institutionalisation, monitoring and evaluation, Africa, Asia

Résumé – Vers une approche de la recherche agricole pour le développement pilotée par les agriculteurs: leçons d'expériences internationales avec les fonds d'appui à l'innovation locale. De nouveaux dispositifs pour financer la recherche agricole pour le développement émergent graduellement, s'efforçant de donner aux petits agriculteurs un rôle central pour décider des innovations que les intéressent et de comment les développer. Cet article rend compte d'expériences avec un tel type de mécanismes, les Fonds d'appui à l'innovation locale, ou LISF (Local innovation Support Funds), expérimenté dans huit pays en Asie et en Afrique sous l'égide du réseau PROLINNOVA. Les dispositifs LISF varient beaucoup d'un pays à l'autre en fonction des conditions, expériences et opportunités spécifiques à chaque pays. Ils partagent cependant certains éléments structurels, tels que permettre aux agriculteurs d'exercer la gouvernance des fonds, faciliter l'accès aux appels à propositions par les agriculteurs, développer et appliquer des critères efficaces de sélection des projets, et proposer un suivi et une évaluation rapprochés de la mise en œuvre des fonds. Après avoir présenté la structure générale du programme LISF, ce papier examine la diversité des résultats obtenus en termes de nombre, taille et types de projets soumis, de thématiques abordées et de modalités de suivi-évaluation. Quelques points critiques sont ensuite abordés: le rôle et l'importance d'une bonne compréhension des concepts, une analyse de ce à quoi les agriculteurs utilisent effectivement les LISFs, les avantages et inconvénients de financer via les LISF l'innovation locale vs l'expérimentation conjointe agriculteurs-chercheurs, et enfin, les perspectives émergentes en termes de durabilité et d'institutionnalisation de l'approche LISF dans et au-delà des pays concernés par ce projet pilote.

Mots clés: Innovation, financement, gouvernance, institutionnalisation, suivi-évaluation, Afrique, Asie

INTRODUCTION

The Agricultural Research for Development (ARD) arena has witnessed significant changes in the way it tackles agricultural innovation development in developing countries. Linear, top-down approaches based on the transfer-of-technology paradigm dominated the 1960s and 1970s, typified by the “Green Revolution” (Ruttan 1977) and Training-and-Visit (Benor *et al* 1977). It gradually became clear from the 1980s onwards that small-scale farmers and communities had been largely left out of the corresponding development (Chambers *et al* 1989). At the same time, there has been a growing awareness about the increasing threat to natural resources and the persistent poverty among small-scale farmers, exacerbated over the last few decades by population growth, climate change and the effects of economic globalisation (McIntyre *et al* 2009).

In response to such challenges, alternative approaches began to emerge in the 1980s, and have gained momentum since, with the aim of achieving sustainable agriculture in collaboration with smallholders. These include various types of farmer participatory research, participatory technology/innovation development (PTD/PID), action research and co-design, to name but a few (Veldhuizen *et al* 1997, Reij & Waters-Bayer 2001, Béguin & Cerf 2009, Almekinders *et al* 2009, Faure *et al* 2010). While each approach has its own specificities, common among them is the realisation that innovation follows a non-linear, quite unpredictable process and entails no sharp division of labour between generators of knowledge and designers of technology on one hand and beneficiaries of such knowledge and technologies on the other (Röling 2008). The recent emergence of the innovation system perspective (World Bank 2006) reflects a growing agreement that innovation processes and pathways are highly complex and diverse.

Presently, many government agencies, nongovernmental organisations (NGOs) and ARD projects are applying such multistakeholder participatory approaches to innovation with small-scale farmers and other land-users, although these are still far from constituting a dominant paradigm. The approaches ask for the involvement of a variable mix of actors, including farmers and their organisations, researchers, local government, extension agents, development practitioners and the private sector, who jointly identify local problems and opportunities and develop locally appropriate solutions.

In most of these past or ongoing initiatives, control over funding for implementing the activities has remained in the hands of the formal institutional actors involved, such as a research organisation or NGO. These actors thus exert an overwhelming influence over the main decisions as to how the innovation process is organised, what types of activities are implemented and by whom. Conversely, the farmers involved rarely have direct access to funding for implementing their own ideas about what innovations to explore and how to go about it. In most cases, they receive some small financial support to pay for their participation in project activities (e.g. working on experiments or making exchange visits), but have little to say about what they can or cannot do with these funds. Although efforts have been made to open up ARD funds to a diversity of stakeholders through competitive bidding processes (Gill & Carney 1999), such funds go primarily to research institutions, partly as a result of the high administrative and technical requirements for accessing the funds.

There is evidence, however, that small amounts of money made available to local innovators can help accelerate innovation and make the process locally sustainable (Ashby *et al* 2001). Also Sanginga *et al* (2008), Veldhuizen *et al* (1997), Critchley *et al* (1999) and Wettasinha *et al* (2008) clearly show that small-scale farmers are innovators in their own right. They possess and keep developing invaluable knowledge about their own environment and can identify, develop and fine-tune innovations suitable to their needs.

A pilot programme was initiated to explore how farmers can be supported by giving them direct access to means for developing innovations of their own choice, and how to ensure

that such innovations benefit their communities. Called Local Innovation Support Funds (LISFs) and operating under the umbrella of the PROLINNOVA¹ network, the pilot has been operating in several countries in Africa and Asia over the past five years². This paper outlines the general structure and modalities of the LISF pilot, and the specific experiences in the various countries where it has been implemented. It gives a snapshot of results achieved to date in some of the countries involved and then discusses some of the lessons from and challenges of the LISFs.

1. LOCAL INNOVATION SUPPORT FUNDS

The PROLINNOVA network started in 2002 based on a shared recognition among many NGOs and other stakeholders in several countries of the need to build on and strengthen the capacity of farmers to play a central role in ARD. Currently, PROLINNOVA includes ca 130 partners and operates across 16 countries in Africa, Asia, Latin America and the Pacific. In each country, PROLINNOVA operates as a multistakeholder network comprising a variable mix of NGOs, farmer organisations, universities, extension services, research institutions and development projects, coordinated by a National Steering Committee (NSC) responsible for making all strategic decisions.

PROLINNOVA believes that a fundamental shift in mechanisms for allocating funding for ARD is required to give more power to local farmers, which would then contribute to creating a longer-term institutional basis for truly farmer-led participatory approaches (Waters-Bayer *et al* 2005). PROLINNOVA sets out to address the question whether alternative, farmer-governed funding mechanisms for local ARD could be developed that are cost-effective and sustainable. Building on previous experience spearheaded by LI-BIRD (Local Initiatives for Biodiversity, Research and Development), the NGO coordinating PROLINNOVA–Nepal, four other country networks in Cambodia, Ethiopia, South Africa and Uganda joined in a pilot programme in 2005 to test ways to set up financing mechanisms that allow local land-users to access funds for improving and accelerating their innovative activities. This pilot study was expanded in 2008 to country networks in Ghana, Kenya and Tanzania.

The concept of “Local Innovation Support Fund” refers to a funding mechanism that is easily accessible to land-users to enhance promising local initiatives, gives them a prominent role in fund governance and has a light administrative structure. The fund can be used for various purposes, including farmer experimentation without outside help, farmer-led joint experimentation including other actors, sharing of experiences and innovations (e.g. cross-visits between communities), and other forms of support to farmer experimentation.

Setting up a “typical” LISF usually starts with establishing a multistakeholder committee of some sort at local or regional level to coordinate the LISF process. This committee oversees the establishment of easily understandable LISF proposal formats and guidelines, screening criteria for approving grants, and funding modalities (grant, co-funding, loan with or without interest rate etc). The committee then identifies a community or area where it creates awareness about the forthcoming call for proposals, and is often also involved initially in supporting proposal-writing by individual farmers or groups. The LISF committee screens all submitted proposals, decides on approval and informs the applicants. The grant is then disbursed, either directly to farmers or through their community-based organisations (CBOs), in cash or in kind. Supporting organisations monitor the implementation of the funded activity. In some cases, field days or other events are organised to share the results obtained by farmers in their LISF-supported activities, increase awareness about the LISF and contribute to motivating more farmers to apply for the next cycle of funding. Capacity-building also takes place: it is directed to farmers and CBO representatives who are handling the LISF at local

¹ Promoting Local INNOVation in ecologically oriented agriculture and natural resource management (www.PROLINNOVA.net)

² It must be noted, though, that the programme has had a staggered start, with some of the partners becoming involved only in mid-2008.

level as well as to representatives of organisations supporting farmers' experimentation and innovation.

In addition to setting up operational LISF modalities at farmer level, the pilot programme also seeks to establish an enabling environment for LISFs, their careful monitoring and evaluation (M&E) and effective learning and sharing within and beyond the national and international PROLINNOVA networks with relevant ARD institutions and policymakers, so as to create awareness and support, and eventually ensure longer-term sustainability (financially and institutionally) of the LISF approach.

M&E and impact assessment (IA) form an integral part of the LISF pilot. They serve as a basis for learning, sharing and adapting, an important goal given that the LISF is a pilot exploring fairly new ground in funding innovation. The M&E / IA framework focuses on three closely interlinked levels:

1) Assessing the actual functioning of LISFs

The central question here is: *To what extent is this funding mechanism feasible, effective and efficient?* For this purpose, an MS Access® database, called the "register", was developed in which partners record basic information about grant applications, topics, amounts approved, progress in implementation etc. The register enables a country-based and international comparison of disbursements to experimenters, rates of approval for proposals, and purposes for which the funds have been used.

2) Impact assessment per se

IA assesses the relevance and effect of LISFs by looking at four inter-linked aspects:

- The extent to which LISF support has led to development of improved practices related to food production and natural resource management;
- The extent to which these practices and systems have spread among farmers, and their impact on local livelihoods;
- The change in capacities of land-users to access relevant information and to develop technical and socio-organisational innovations;
- The change in openness and interest of ARD agencies to support and work with local innovators and their groups using an LISF-type approach.

To gather such information, fairly simple, practitioner-oriented guidelines were developed (Triomphe *et al* 2010), inspired by an approach proposed by Catley *et al* (2009). Closely articulated with M&E, it involves two main steps: i) semi-structured interviews with the various stakeholders involved in the LISF, foremost the farmer innovators themselves; open-ended questions explore the meaning of farmer-led research, results achieved, and advantages and difficulties of the LISF process and mechanisms; ii) multistakeholder workshops, in which the trends, challenges and perspectives of LISFs emerging from the semi-structured interviews are discussed. Different country partners can easily adapt the guidelines to the specific features of the LISF experience and set-up in their country.

3) M&E for pilot implementation

At this level, M&E focuses on the main strategies used to achieve the overall objectives. It focuses on overall implementation of the pilot. As such, it is based on half-yearly progress reports of the country networks, annual face-to-face international meetings with LISF coordinators, telephone conferences, bilateral reviews and backstopping missions.

2. A DIVERSITY OF EXPERIENCES AND RESULTS ACROSS COUNTRIES

2.1 Diverse structures for decision-making and governance

The eight country networks involved in the pilot have developed very different decision-making and operational structures for their LISFs. This is a consequence of each country conducting its own feasibility study for deciding how best to apply the generic LISF concept to the specific context and conditions, of the experience and strengths of local actors and of

their learning from the ongoing pilot. In some cases, e.g. Ethiopia, different structures were chosen in different regions in the same country. In all countries, LISF is a multistakeholder initiative, overseen by the PROLINNOVA NSC, with several network partners involved in LISF implementation on the ground.

Cambodia illustrates the dynamics of how LISF structures in a given country may evolve over time, in response to lessons and challenges identified (Vitou 2008). An initial structure was designed based on the feasibility study carried out in 2005–06. From the start, it was decided to operate the LISF as a revolving fund: farmers could apply to the LISF for a loan, on which interest was charged. This was seen as the best way to make farmers feel more responsible for carrying out the activities they proposed, and also to replenish and expand the initial fund, linking it to existing community-based savings-and-credit (S&C) schemes and associations. From 2005 to 2008, LISF pilots were established in three provinces, each with a different organisation playing the leading role, overseen by an LISF NSC coordinated by CEDAC (Cambodian Centre for Study and Development in Agriculture), which also coordinates PROLINNOVA–Cambodia. While LISF operations were highly decentralised in operational terms, the three provinces followed a common procedure: fund requests by individual farmers were first sent to a farmer association, which compiled and forwarded them to the lead LISF partner in the province. After a preliminary review of the proposals, this partner forwarded them to the LISF NSC, which took the final decision about the individual proposals.

In 2008, the LISF scheme was expanded to 11 provinces involving a total of 20 NGO members of PROLINNOVA–Cambodia. However, it proved to be too difficult to ensure the necessary capacity-building and the quality of the proposals and ensuing experimentation. It was also difficult to handle the varying degree of ownership by farmers and local support institutions as well as the challenges in monitoring the results. Such multiple, decentralised, small-scale, NGO-led initiatives also made it difficult to attract funding from the national government and from international donors.

In response, in 2010, a new structure was designed: implementing the LISF through a farmer-governed, centralised national fund under an existing farmer organisation at national level, Farmer and Nature Net (FNN). CEDAC and other PROLINNOVA–Cambodia partners play solely an advisory role to the FNN.

In other countries, the LISF structures usually lie somewhere between full control by a leading national PROLINNOVA network partner and committee and full control by local communities, with varying degrees of farmer-led governance. In Uganda, CBOs are directly responsible for selecting applications and distributing funds, and receive only occasional outside advice. However, difficulties in monitoring and ensuring quality led to establishment of a common quality-control mechanism operating at national level. In Kenya, proposals are selected both at community level and by a district LISF steering committee, complemented by a final vetting by the PROLINNOVA NSC. In the Ambo region of Ethiopia, Fund Management Committees composed of farmers have been set up at sub-district level to help prepare applications. They then send the improved applications to a district-level Fund Management Committee, which makes the final decision, with advice provided by the facilitating NGO and government extension staff in the area.

Over time and across all countries, LISF pilots have generally been moving toward more farmer-led governance mechanisms and structures, while supporting organisations (mostly NGOs) help build the capacity of these farmer groups and play an increasingly important role in ensuring the quality of proposals and integrity of fund use, rather than in managing the LISF directly.

2.2 Number, size and types of grants

The number, size and type of grants (individual vs group) vary greatly across countries (Table 1). This reflects differing starting dates, the number of LISF cycles and the geographic scale at which LISFs have been set up in the different countries. It also reflects different choices made in LISF structure and whether the focus was more on encouraging individual innovators or group innovation. It also reflects the diversity of contexts and needs of farmers when applying for funds: some merely request support for buying inputs for experiments; others involve significant transportation costs for visiting distant places.

Table 1: Key characteristics of LISF grants made in 8 countries, 2005–09

Country	Period covered	Applications received	Application Approved	% Approved	Range of award size (US\$)	Who are the applicants?
Cambodia	2005–09	193	134	69%	9–105	Individual applications filtered by group
Ethiopia	2005–09	109	47	43%	75–310	Both individuals and groups of 4–5 persons
Ghana	2008–09	80	34	43%	n.a.*	Mostly individual applications
Kenya	2008–09	103	23	22%	n.a.	Mixed/ unisex groups and individuals
Nepal	2004–09	63	24	38%	48–730	Mostly individuals
South Africa	2005–09	65	15	23%	728–2334	Mixed/ unisex groups and individuals
Tanzania	2008–09	25	16	64%	n.a.	Group applications only
Uganda	2005–08	98	67	68%	24–118	Initially groups, later also to individuals
TOTAL		736	360	49%	9–2334	

*data not available

The number of applications has been small in some countries. In Tanzania, for example, each application consisted in fact of an initiative involving several farmers with different, but related, experiments. Not unimportantly, the pilot started later in this country, as well as in Kenya and Ghana. The number of applications were nevertheless very high in other countries (e.g. Cambodia, due mostly to the attempt made in 2008–09 to scale out LISF rapidly). In some areas and countries, application numbers have stalled after the first cycle (e.g. in two regions in Ethiopia, due in part to a lack of sufficient understanding of LISF by farmers and support institutions alike) while, in others, it is increasing from one LISF cycle to the next, reflecting a vibrant appropriation process by farmers who have seen the value of LISFs for carrying out their projects.

The rate of application approval varies from a low of 22–23% in Kenya and South Africa (because initial misunderstanding about the purpose of the LISF generated a flurry of requests for loans to buy inputs) to a high of more than 65% in Cambodia and Uganda. In general, applications made during the first LISF cycle were not always of the desired quality or nature, whereas subsequent cycles have seen an increased relevance and quality of the proposals made. This reflects a growing capacity by farmers and support institutions to understand and implement the LISF concept and process.

The fact that some LISFs cater to individuals while others support group proposals reflects the varying trust in collective action by farmers across countries (Cambodia, in view of its recent history, preferring individual initiatives whenever possible) and also the varying strengths and mode of operation of pre-existing farmer organisations in the communities where the LISF operates.

2.3 Thematic focus

Most LISF proposals approved so far have focused on crop and animal husbandry. Typical proposals involved experimenting on animal diet (replacing expensive externally-bought feeds by locally available ones), treating animal diseases with local plants, selecting better adapted germplasm and waterharvesting, among others. Some proposals were more ambitious, such as testing a series of treatments for *enset* bacterial wilt in Southern Ethiopia. In a few cases, global challenges related to biodiversity and deforestation were tackled, e.g. through the regeneration of an endangered tree species (Ethiopia). Innovators in some countries have also addressed social innovation in ways of organising the community for production or marketing. Overall, the variety of topics addressed in each site (see, for a sample, the data in Table 2) is highly related to local people's imagination, needs and desires, as well as to the interest and understanding that support organisations have invested in LISF.

Table 2: Distribution of topics for LISF proposals in two countries

Country	Theme (% of approved applications)					Type of funding
	Animal husbandry	Crop husbandry	Soil fertility	Socio-institutional innovation, including marketing	Other	
Cambodia	60	35	5	-	-	Local revolving fund
South Africa	18	29	18	24	12	Complete grant

2.4 M&E and IA set-ups in the LISF pilots

The M&E framework detailed above has been operationalised in all eight countries, with varying degrees of success. In some of them, a relative outsider to the LISF process has taken the role of M&E focal point. In Kenya, Tanzania and Ethiopia, perhaps not surprisingly, researchers have taken responsibility for making this complex task more manageable.

A particular challenge in monitoring and assessing the LISF process, results and impact is to deal with highly decentralised mechanisms of implementation which move the centre of decision-making closer to the grassroots. For field-based CBOs, which in many cases collect applications and take key decisions on their approval or rejection, a computer-based tool such as the register is almost inaccessible. For the LISF coordinator, going to all the villages included in LISFs and making sure that all the papers are correctly filled in and all the experiments documented is an equally difficult task, which is time-consuming and expensive. Only in countries where the LISF was piloted on a very small scale (such as in South Africa, where it operates through one community association in a geographically limited area) can problems of local-level monitoring be more easily solved.

IA is still at an early stage: most LISF country pilots are only starting to implement it in 2010, further testing and locally adapting the genetic IA guidelines prepared in 2009 to their own contexts. This step requires a careful rephrasing (and, wherever necessary, translating) of some of the interview guidelines, to make sure that the guiding questions are relevant and correspond to the actual LISF process the various stakeholders have been experiencing locally. This is not easy, because understanding of the LISF purpose and process seems to differ greatly among farmers (LISF grantees and non-grantees) and local authorities and also among staff in support institutions, who do not necessarily have a clear vision about the

place of the LISF in their own agendas. A particular challenge for IA is that the LISFs are still in a pilot phase, i.e. at several sites, only one or two cycles of calls for proposals have been completed, and the actual LISF structure and process are still being adapted and new arrangements are emerging. Moreover, because the LISF is only one component of a multi-pronged approach to strengthening farmers' innovation capacity and contributing to their livelihoods, it is not necessarily advisable for local actors to look at the impact of the LISF on its own.

Early indications are that the LISF impact varies greatly within and between countries. At those sites where only one or two rounds of calls for proposals and funding of farmer-led experimentation have taken place, this is often not enough for farmers to test and adapt their innovations to produce more widely applicable results. The extent to which results are shared differs greatly within and between countries: when extension services are well linked with the LISF activities, a large number of farmers may hear about the results, but this is not always the case. However, supporting institutions (extension, NGOs etc) that have been involved in LISF and other farmer-led experimentation activities within the PROLINNOVA programme are showing an increased interest in farmers' ideas and leadership.

3. DISCUSSION

While results are still preliminary and additional evidence is being collected about how LISFs are being implemented and with what effect, some issues and challenges already emerge.

3.1 Do concepts matter?

LISF not only reflects a political statement related to revamping how the ARD system works; it is also a novel concept. Understanding it properly has much to do with implementing it adequately. As LISF is, by design, a multistakeholder process, shared understanding would seem essential. Yet early indications are of wide differences in understanding of LISFs by different stakeholders. Many farmers seem to grasp the concept fairly well, and relate it to their search for new information and solutions to their problems. But some farmers also have difficulty distinguishing between the process behind the LISF (e.g. conducting experimentation) and the outcome of this process (a concrete innovation). Others become confused between the LISF as a source of funding for investing in agriculture and as a source of funding for seeking new ways of doing things. Others still do not perceive the generic nature of the underlying LISF process: they tend to relate the LISF only to a given type of experiment (e.g. developing new local medicine for curing cattle disease).

For their part, support institutions do not always see the link between the LISF as a way to strengthen farmer-led experimentation and innovation, and other efforts they pursue to support joint experimentation under the umbrella of PROLINNOVA. Some also tend to implement LISF as one more component of their already crowded overall agenda, for which they have to show quick results, but fail to perceive and engage in the longer-term process and goal of increasing farmers' control over development, which underlies LISF. Finally, researchers themselves, when they are aware of an LISF, have their own perceptions and doubts about its actual ability to provide reliable generic solutions and, hence, about its potential contribution to the overall goal and process of producing appropriate innovations.

Behind such differing interpretations lie real difficulties in formulating equivalent concepts in different languages and for different types of stakeholders. Ultimately, the question remains whether and how understanding the LISF in one way or another impacts on how the LISF is implemented and what goals it may help to achieve. This needs to be further explored.

3.2 For what are farmers actually using the LISF?

Across LISF countries, a number of farmers tended to use LISF funds to cover inputs costs for production rather than experimentation. Unsurprisingly, this trend was especially pronounced in the first round of calls for applications. This pattern seems to be more

pronounced in countries where aid has had a longer and pervading presence (e.g. Kenya). The pattern is less pronounced in those pilots where strong organisations are providing support, communication is systematic and clear, and selection procedures are well managed. There have been isolated cases involving leakage of funds into other activities, such as production; where identified, these were addressed by more rigorous quality-control systems.

In the case of recycling of funds through more localised structures, such as S&C groups in Cambodia, there is evidence that funds which were issued as loans were not always repaid, or if repaid, were then treated as loan capital for normal production rather than for experimentation and innovation.

Good overall management of the pilot, strong CBO involvement and effective selection of proposals according to clear criteria did result in the use of funds for experimentation and innovation. This is clearly demonstrated by initial results in, e.g. South Africa and the Ambo area of Ethiopia (Ngubane & Mudhara 2008).

3.3 Supporting local innovation vs joint experimentation: does it make a difference?

Taken as a whole, there are definite differences between localised experimentation efforts with minimal support from outside, and more structured and systematic experimentation supported by researchers. While the potential of groundbreaking innovation by individual farmers and farmer groups cannot be discounted, in general, it is not (yet) evident that this has occurred. The local experimentation can be regarded more as a process of developing or refining locally appropriate innovations, at the same time as strengthening farmers' capacities to engage in discussion and decision-making about ARD processes.

In contrast to farmers' independent experimentation, joint experimentation is more costly, riskier and invariably takes time to assemble the right team and ensure it is adequately resourced. This may result in delayed implementation of activities and hijacking of the process by researchers, which in turn may affect the motivation of the farmer(s). But there are several advantages, as – if the multistakeholder research teams are properly constituted with the right mix of skills – the potential synergies across these come into play. Farmers learn, scientists learn and they all improvise together. This is the full expression of participatory innovation. Joint experimentation also usually implies improved research design, more research rigour in implementation and better documentation of results. This increases the prospects of more widely applicable innovation and is more conducive to sharing the results.

The way experimentation is conducted depends on farmers perceiving the value of it, and also on grants becoming larger to accommodate the inherently higher costs related to sustaining a multistakeholder process.

3.4 Sustainability and scaling up of LISF: advances and challenges

The LISF pilots aim to develop a longer-term sustainable system for farmers to access innovation resources co-managed by farmers. The evidence from the current pilots suggests that considerable progress has been made in achieving this at community level, by decentralising fund management to existing CBOs or farmer groups. Many CBOs showed interest in handling a community-based LISF, but had to be initially trained and mentored by support organisations. In financial terms, sustainability can be enhanced by putting in place payback arrangements within the CBOs, as in Cambodia or Uganda. Such arrangements contribute to periodic replenishment of funds. However, not all LISF stakeholders are keen on this mechanism, and it remains to be seen whether what could be easily equated with a micro-credit scheme is indeed achieving the stated objective of an LISF. After all, formal researchers are not obliged to repay the funds they receive for on-station research; why should this be required for farmer-led participatory research?

At a higher level, experiences with institutionalising the concept within the country's ARD systems are incipient. In Tanzania, the local government has agreed to help replenish the LISF at district level. In some other countries, some government agencies have been actively participating in implementing the pilot. In most countries, however, LISF is still very much managed as a short-term, relatively local, externally supported project. It is not yet seen and planned as a longer-term, nation-wide initiative. However, Cambodia is witnessing an interesting development, which could yield important lessons to other pilots regarding sustainability: there are encouraging signs of interest from the government and donors in supporting over the long term the recently set-up centrally-based institution running the LISF.

A related issue is farmer governance. There is consensus among LISF-coordinating agencies that farmer participation should be taken beyond the field level to decision-making and fund management. This is reality in some countries (Ethiopia, Uganda, Cambodia) and, whereas it is not without problems, it does justice to the principles and ideals on which the pilots are based, providing an important tool for empowerment and ARD transformation.

An additional issue related to effectiveness and sustainability of the LISF is its integration into a wider framework, LISF being one of several complementary activities contributing to farmer empowerment and capacity-strengthening. When such integration has been achieved, the scope and opportunities for an effective LISF are greatly expanded, at least in contexts where poverty and serious social and economic problems prevail.

CONCLUSIONS AND PERSPECTIVES

LISF as a mechanism for promoting farmer-led innovation is still in an experimental phase. Mechanisms to allow good implementation of the LISF concept and process are still emerging, and increasing the capacities and skills of the key stakeholders remains a major priority in all countries. However, advances made so far in the various LISF pilots are significant: the number of grants made has increased steadily, the diversity of topics farmers are tackling with the support of LISF is widening, farmer governance of the LISF is increasing and, in some cases, progress is being made toward institutionalising the LISF.

So far, concrete benefits of the LISFs include increased attention on local innovation and the potential of local innovators. The opportunity of securing resources to experiment and the involvement of other actors in support of joint experimentation herald a new way of doing things. The new farmer-led ARD paradigm that research agencies increasingly aspire to thus slowly becomes a reality, a tangible process that all actors can engage with and relate to. In this action-oriented process, there is strong learning among all stakeholders involved, yielding invaluable lessons and indicating pathways for implementing such approaches and what kind of additional non-financial support is needed to make it happen. In the process, the respective roles and relationships of farmers, farmer organisations, extension workers and researchers are redefined, with the farmer gradually coming closer to the driver's seat.

The PROLINNOVA LISF pilot is grappling with many issues. Results, lessons and challenges keep emerging. These lessons pave the way for more comprehensive, effective and sustainable LISF initiatives.

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